

A NEW TRIBE OF CARABIDÆ (COLEOPTERA)  
FROM WESTERN UNITED STATES

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The following is a very isolated new tribe of G. H. Horn's subfamily Carabinæ of the beetle family Carabidæ:

Gehringiini

Chief tribal characters: Mesosternal epimeron attaining middle coxa; front coxal cavities open behind; hind coxæ separated; front tibia broadly emarginate on inner side, variable spur distant from apex; sides of elytra broadly bent under body, without special internal plica or marginal interruption; palpi stout, last joint slender, almost subulate; antennæ moniliform, inserted under slight frontal costæ; mandible with seta in scrobe; single fixed seta over eye.

This tribe is founded upon the following genus:

*Gehringia* Darlington, gen. nov.

Size minute; general appearance like Bembidion; entire upper surface sparsely and inconspicuously pubescent. Epimeron of mesosternum narrowly but definitely reaching coxa; front coxal cavities open behind, prosternal process not prolonged behind coxæ; middle coxæ separated by about one-half their own width; hind coxæ separated by one-fifth or one-sixth width of body including elytra, posterior edge of metasternum reaching second abdominal segment medially; first ventral visible at sides but not between coxæ. Front tibia simply rounded at apex, broadly emarginate on inner side, variable spur distant from apex; tarsal claws simple; male front tarsi not dilated, but with inconspicuous sexual vestiture. Head rather short, bi-impressed between anterior edges of eyes, front not otherwise sulcate; eyes moderate, narrowly separated from mouth below, coarsely faceted, sparsely set with short pubescence; supraorbital fixed seta single, opposite posterior margin of eye; antennæ inserted under slight frontal costæ, basal joint only glabrous, first three joints subequal, about twice as long as wide, outer joints perfectly moniliform; clypeus subtruncate in front, with two setæ each side near margin; labrum moderate, subtruncate in front, with three setæ each side on front margin, the inner very short; mandibles short, arcuate, acute, with seta in scrobe (detectable only in some specimens); mentum deeply emarginate, toothed at middle, tooth irregularly blunted at apex, with two inconspicuous setæ at base; ligula narrow, parallel, bisetose at apex; paraglossæ wider than

ligula, of same length; whole labium (ligula + paraglossæ) nearly square, truncate at apex; labial palpi with penultimate joint stout, bisetose in front, apical joint slender, slightly shorter; maxillæ with inner lobe curved and acute at apex, spinulose on inner margin, outer lobe of equal length, basal joint stout, outer joint slender; maxillary palpi very short and stout, penultimate joint slightly serrate on inner side, apical slender, shorter, almost subulate. Prothorax cordate; pronotum with seta in posterior angle and in side margin one-third from apex on each side. Scutellum distinct. Elytra not margined at base; scutellar stria absent, sutural stria deep, striation otherwise obsolete; no special discal setæ; outer edge of elytron broadly bent under body, reaching outer end of hind coxa, the bend being inside the ordinary explanate margin which is therefore carried under the body except near humerus; no special internal plica or marginal interruption. Wings long but with anal area greatly reduced; venation of Carabid type but reduced; most of margin fringed with hairs.

The genotype is:

*Gehringia olympica* Darlington, sp. nov.

Figures 1-6

Form as shown in Fig. 1. Piceous black, antennæ, legs, and parts of under surface rufescent. Front impunctate, shining, but with a few short, inconspicuous hairs in addition to the supra-orbital fixed setæ. Pronotum finely margined at sides, not margined at base; edge of base, and side margins posteriorly, more or less crenate; disk with rugose transverse impression across base between small depressions in posterior angles, median longitudinal impressed line very fine, no transverse impression anteriorly; surface of disk shining, impunctate, but finely and sparsely pubescent. Elytra not margined at base; explanate lateral margin very narrow, bent under body as described above; sutural stria entire, deep, impunctate; second and third striæ sometimes faintly, irregularly impressed for part of their length, sometimes completely obliterated, as are outer striæ; intervals 1 to 3 each with a single row of punctures bearing inconspicuous hairs; rows of similar punctures corresponding to outer intervals progressively less regular, the punctures very irregularly placed externally and apically; surface between punctures smooth, shining; epipleuræ impunctate, shining. Anterior tarsi of male not perceptibly dilated, first three joints with scanty sexual pubescence below. Length to apex of elytra  $\pm 1.6$  -1.7 mm.

Holotype, female (on point), allotype, male (dissected, on slide), and 6 paratypes ( $\delta$  ♀ ♀ ♀ on points, original condition;

♂ on point, slightly dissected; ♀ entire on slide) from near Sol Duc Hot Springs, Olympic Mts., Washington State, Aug. 5, 1927, taken by the writer by throwing water over gravel bars in the river. Six paratypes (♂♂, 4♀♀) from Glacier Park, Montana, June 30 and July 8, taken by Miss Edith Mank and lent to me by Mr. H. C. Fall. Type, allotype, three (♂♂♀) Olympic Mts. paratypes (including all dissections), and one (♀) Glacier Park paratype in the Museum of Comparative Zoölogy, type number 17,243. One Olympic Mts. paratype each in the collections of the California Academy of Sciences, H. C. Fall, and the writer. Five Glacier Park paratypes in the collection of H. C. Fall.

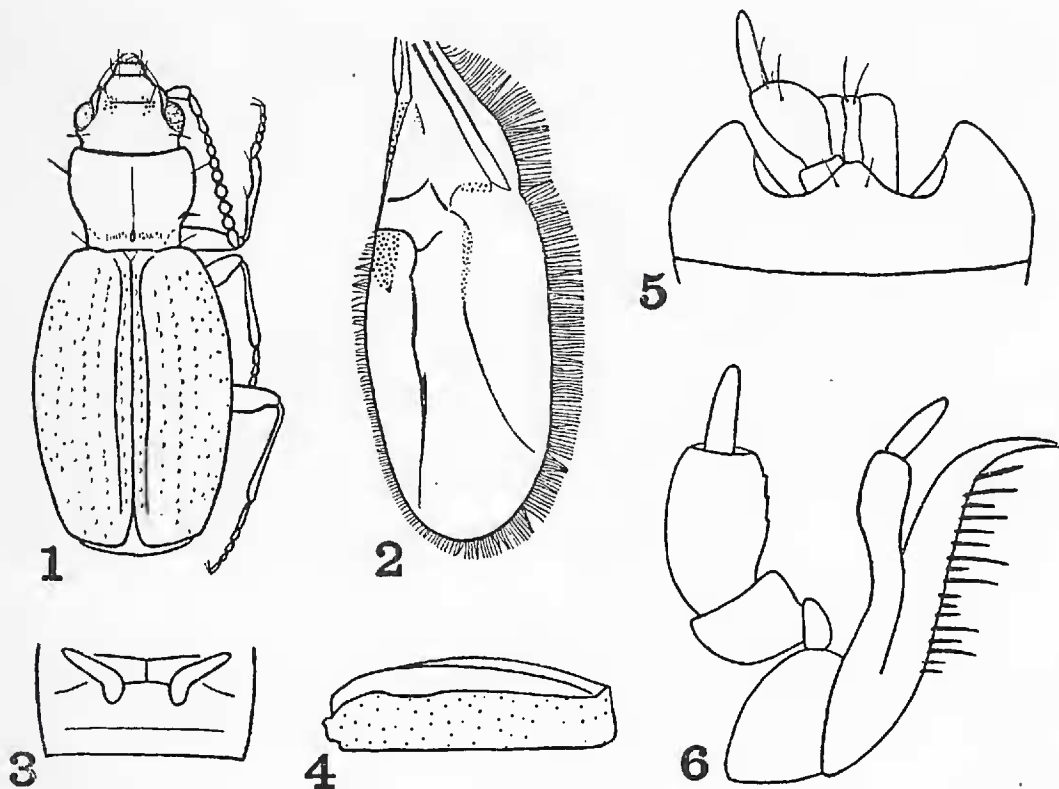
The genus *Gehringia* does not fit very naturally anywhere among previously described Carabidæ. It unquestionably falls in the subfamily Carabinæ (in the broad sense of G. H. Horn and of the Junk Catalogue)<sup>1</sup> on the structure of the mesosternum, and also on the incomplete closure of the anterior coxal cavities, a condition which is apparently unknown among Harpalinæ. In Horn's table of tribes (1881, 104) it falls between the Cychrini and the following tribes, fitting neither portion of the couplet. In Sloane's classification (1923, 242) it runs to the Carabidæ Apertæ and falls between the Nebriini and Notiophilini (couplet 25), fitting neither. The peculiar underlapping of the edges of the elytra in *Gehringia* is, so far as I know, unique among Carabidæ. Even aside from this, however, the genus is very strongly characterized. The separation of the posterior coxæ is not common, and the short, stout palpi, with the last joint contrastingly slender are unique at least among Carabinæ. If the ventral structure and other inconspicuous characters were overlooked, this insect might be considered a relative of the Bembidiini (subfamily Harpalinæ), for the general form and the almost subulate palpi are very Bembidion-like, but I can find nothing described in that tribe which at all fits *Gehringia*. At one time during my study of the insect I even doubted whether it belonged to the Carabidæ, but the division of the first ventral segment, the sutures of the posterior part of the metasternum, and the general character of the wing venation,

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<sup>1</sup> Although the Carabinæ of Horn is not a natural or phylogenetic subfamily, its recognition is exceedingly convenient, and for that reason seems to me to be desirable.

as well as the general appearance, leave no doubt that it is a true Carabid. Since it does not seem to be very closely related to any previously described form, I am placing the tribe Gehringiini provisionally almost at the front of the Carabinae, after *Trachypachus* and before the Cychrini in Leng's "Catalogue of Coleoptera of America North of Mexico".

The bending under of the sides of the elytra is presumably an adaptation for supporting the abdomen; if so, it serves the same function as the internal elytral plica of some other Carabidæ. I think there can be no question that the bending of the elytra is a natural character, not due to warping after death, for it is constant in the fourteen specimens I have examined, and there is no distortion of other parts of the body in most of the specimens. None of them is immature. The reduction of the venation of the wings is probably directly correlated with the small size of the insect, and is probably not in itself of much significance (Cf. Jeannel 1926, 329).



*Gehringia olympica*. 1. Entire insect. 2. Inner wing. 3. Posterior part of metasternum, hind coxæ, and first three ventral segments (semi-diagrammatic). 4. Elytron from below. 5. Mentum, labium, and one labial palpus. 6. One maxilla, with palpus. Figs. 1-4 from camera lucida outlines; 5-6, with use of ruled ocular.

The name *Gehringia* has been adopted in honor of the late Dr. John George Gehring of Bethel, Maine, who was one of my earliest entomological correspondents and most stimulating friends, and for whom I was collecting "on shares" when I secured the types of the genus.

#### PAPERS CITED

Horn, G. H., 1881. On the genera of Carabidæ with special reference to the fauna of Boreal America. *Trans. Am. Ent. Soc.* 9, 91-196, plates.

Jeannel, R., 1926. *Monographie des Trechinæ, I.* *L'Abeille* 32, 221-550.

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#### OUR TRAVELERS RETURN

Dr. E. C. Van Dyke recently returned from a fifteen months' trip through Europe and northern Africa. He attended the fifth International Entomological Congress at Paris and the centenary meetings of the Entomological Society of London but spent much of the time studying the collection of insects at the British Museum and those at Paris, Berlin, Vienna and other places. About two months were spent traveling and collecting in Egypt and Algeria. The results of his studies and his contacts with European entomologists will add greatly to the value of the Academy collection of insects.

Mr. Howard Hinton and Mr. Robert Usinger spent about two months collecting in Temascaltepec, Mexico, bringing back many interesting insects some of which will find their way into the collection of the California Academy of Sciences. Mr. E. Gorton Linsley took a trip east this summer visiting a number of the larger insect collections there, studying types and comparing some of his uncertain species of longhorn beetles.

In early August Mr. Templeton Crocker returned from a cruise among the Solomon Islands in his yacht *The Zaca* and brought back for the Academy a considerable collection of insects, which is especially welcome as we had little from those islands except a collection of moths made there in 1921 by Mr. J. A. Kusche. Mr. Crocker's material was largely taken by his secretary Mr. Maurice Willows, whose work in the Galapagos Islands last year added so much to our knowledge of the insect life of those interesting islands.—E. P. Van Duzee.